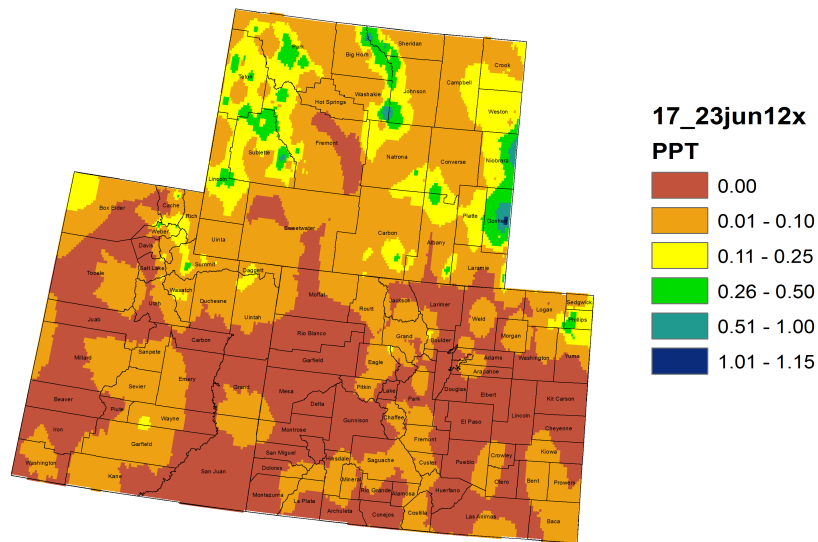


NIDIS Weekly Climate, Water and Drought Assessment Summary

Upper Colorado River Basin

June 26, 2012

Colorado, Utah and Wyoming 7 Day Precipitation (inches)
17 - 23 June 2012



Snotel Water Year Precipitation Percentile Ranking for
26 June 2012 (Stations with 15+ years of data only)

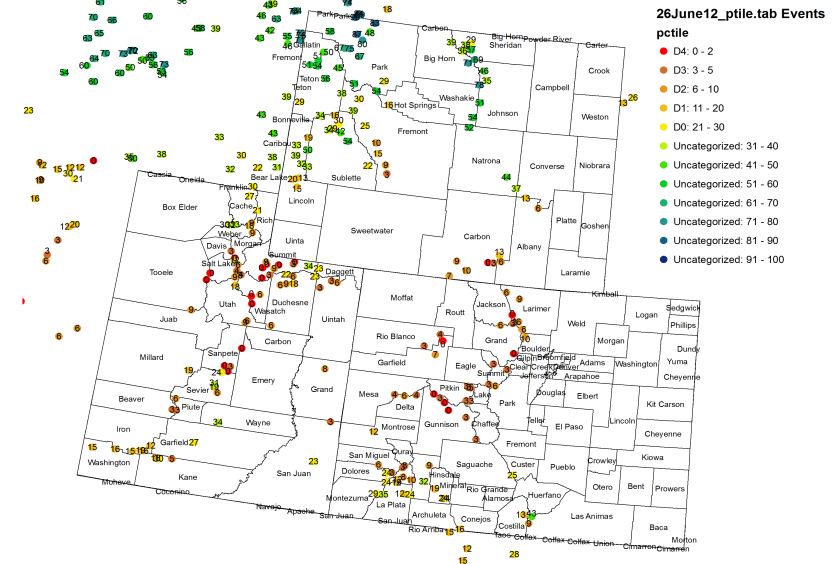


Fig. 1: June 17 – 23 precipitation in inches.

Fig. 2: SNOTEL WYTD precipitation percentiles (50% is median, 21 – 30% is Drought Monitor D0 category).

Precipitation

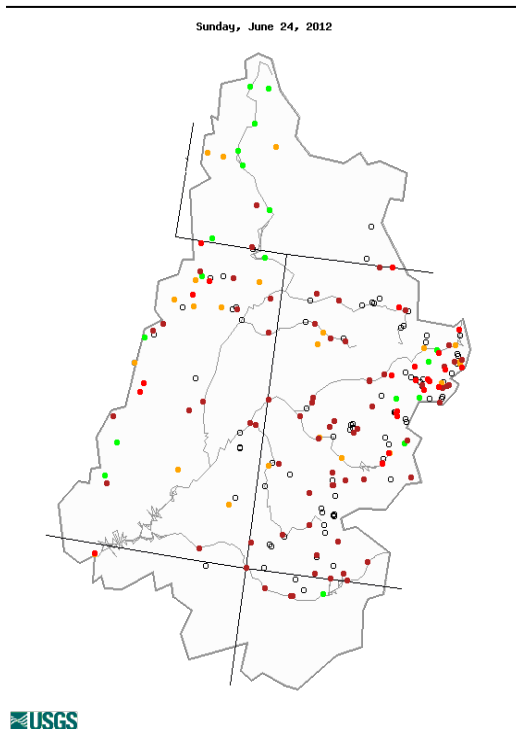
Last week, most of the Upper Colorado River Basin (UCRB) received less than .10 inches of moisture, with many areas receiving no precipitation (Fig. 1). East of the basin, only a few spotty areas received precipitation while most of the Front Range and eastern plains of Colorado received little to no precipitation. For the month of June so far, most of the UCRB has received less than .25 inches, while some of the Front Range and eastern plains received between half an inch to an inch with a some local areas receiving over two inches for the month.

Water-year-to-date (WYTD), SNOTEL precipitation percentiles are low for the Yampa and Gunnison basins in CO, and the Wasatch range in UT, with many sites reporting in the lowest 5th percentile or below (Fig. 2). The northern mountains of CO are also dry, with most all sites reporting below the 10th percentile for precipitation. SNOTEL percentiles in the Upper Green basin in WY are around the 30th percentile, and percentiles in the San Juan basin are in the teens and 20s.

Streamflow

As of June 24th, 13% of the USGS streamgages in the UCRB recorded normal (25th – 75th percentile) 7-day average streamflows (Fig. 3). There are no gages in the UCRB recording above normal flows, while about 69% percent of the gages in the basin are recording much below normal or low streamflows. The gages on the Upper Green River are showing near normal and below normal flows. Most gages on the Yampa, Colorado, Gunnison, Dolores and San Juan rivers are currently recording flows below the 10th percentile. Low flows are mainly concentrated in headwater regions on the east side of the basin.

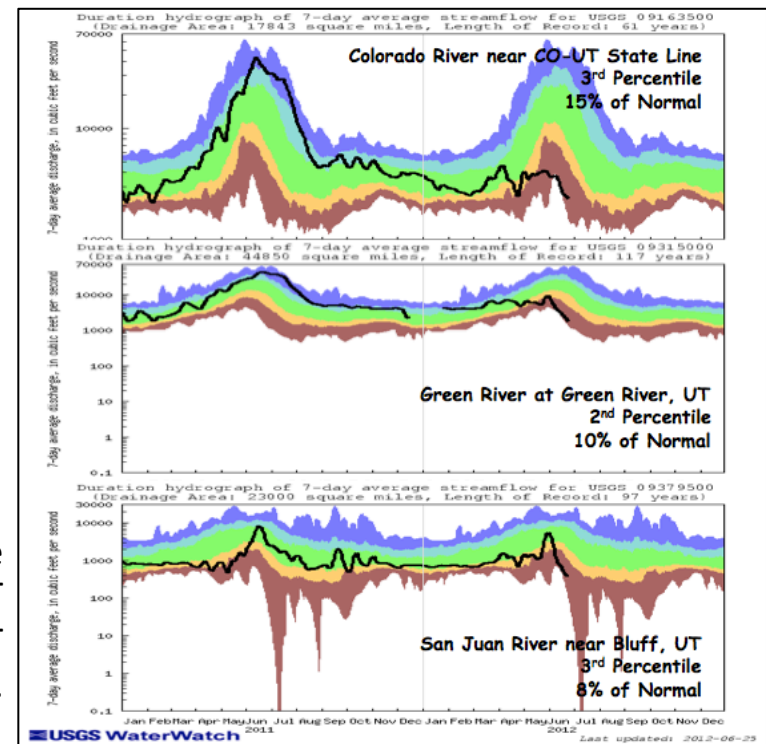
Flows on all three key gages in the UCRB saw large decreases last week (Fig. 4). Flows on the Colorado River at the CO-UT state line, the Green River at Green River, UT and the San Juan River near Bluff, UT reported at the 3rd, 2nd, and 3rd percentiles, respectively. Though the San Juan River saw a larger seasonal peak, this was mainly due to releases from upstream Navajo Reservoir. Flows at all three key gages are much below normal for this time of year.



Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Fig. 3: 7-day average discharge compared to historical discharge for June 24th.

Fig. 4: USGS 7-day average discharge over time at the CO-UT stateline (top), Green River, UT (middle) and Bluff, UT (bottom).



Water Supply and Demand

Much of the UCRB experienced above average temperatures for the week, with the Four Corners region experiencing temperatures 4 to 8 degrees above average. The rest of CO saw temperatures between 6 and 10 degrees warmer than average last week. Satellite vegetation conditions show the driest vegetation over western CO and eastern UT, extending down to the Four Corners region (Fig. 5). Very dry vegetation is also showing up over southern WY and northeast CO. Reference ET rates throughout the basin are very high, with CoAgMet stations in western CO reporting some of their highest ET rates on record (Fig. 6). Daily reference ET rates are ranging from between .30 to .50 inches, meaning that smaller amounts of precipitation will provide only minimal relief to crops and soils, and the majority of precipitation can quickly evaporate back into the atmosphere.

Blue Mesa, Flaming Gorge, Lake Powell, McPhee, Navajo, and Dillon have all seen volume decreases since the beginning of the month. Flaming Gorge is currently above its June average volume, while the rest of the reservoirs are slightly below their June averages. Lake Powell is currently at 74% of average and 63% of capacity. Daily inflows into the major reservoirs in the basin are much below average for this time of year.

Precipitation Forecast

The UCRB will remain on the western edge of a large high pressure ridge through the middle of the week. Southerly flow aloft will allow a narrow ribbon of sub-tropical moisture to move over the eastern half of the basin, and provide fuel for afternoon thunderstorms as daytime heating de-stabilizes the atmosphere. Expect these storms to be high based in nature, producing more wind than rain. The best storm coverage will stretch from the San Juan mountains northeastward into the northern CO mountains, with most areas picking up less than 0.25 inches of liquid through the end of the week. By Friday the moisture plume thins out and is shifted further to the southeast, leaving most of the UCRB underneath dry westerly flow aloft. Expect storm chances to decrease through the weekend while temperatures again climb well above normal. Towards the beginning of next week forecast models are hinting at a return of sub-tropical moisture to the extreme southern portions of the basin, which may lead to an increased chance of isolated thunderstorms over the San Juan and Four Corners regions by Monday depending on the depth and position of the developing moisture plume.

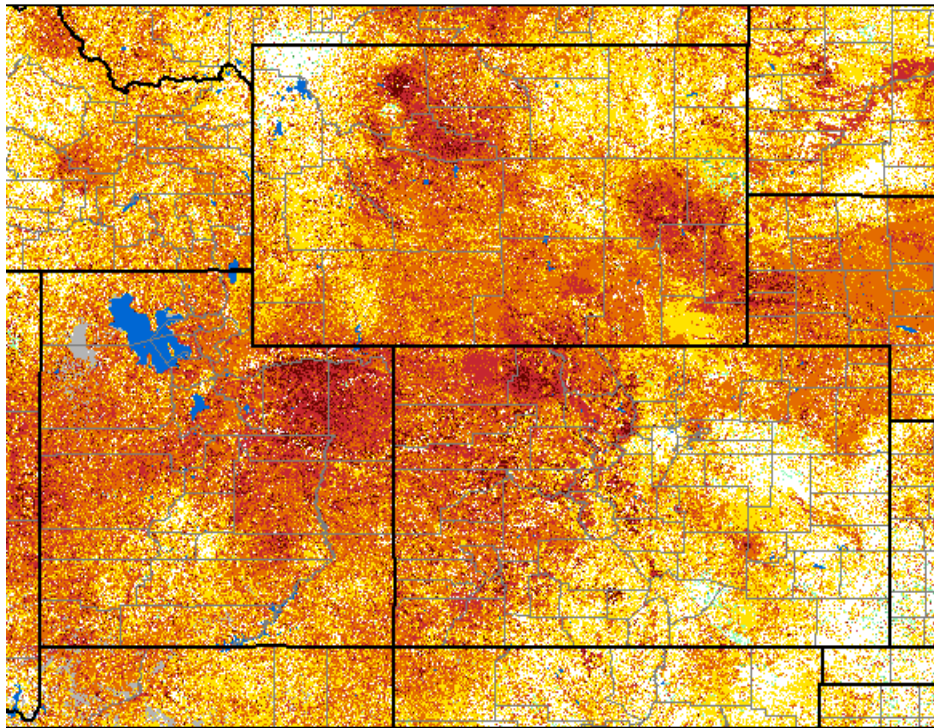


Fig. 5: eMODIS VegDRI satellite vegetation conditions as of June 24th.

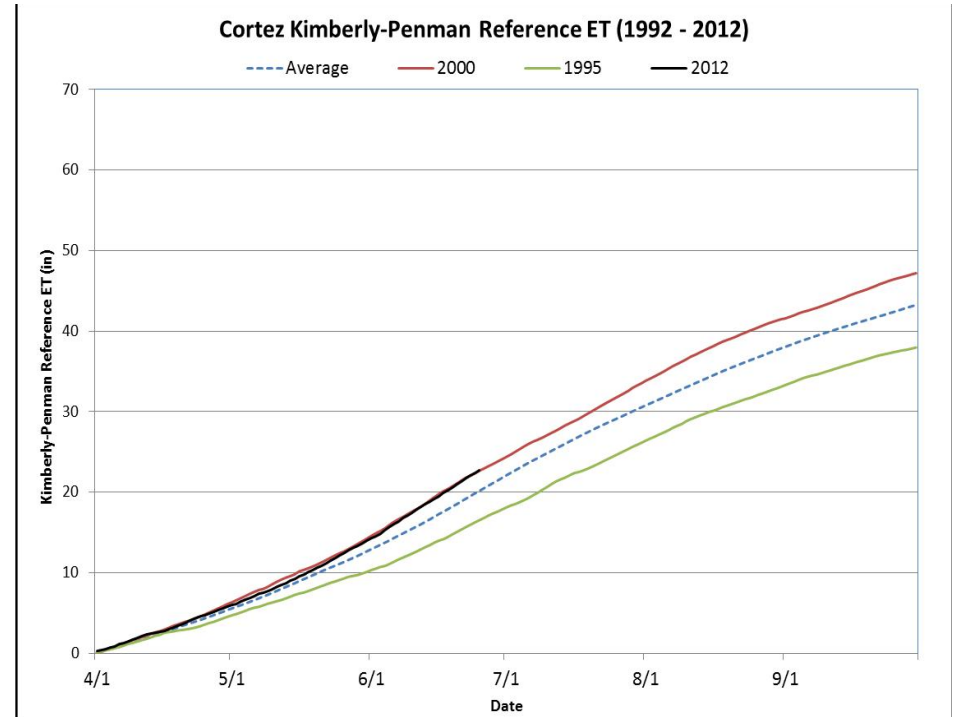
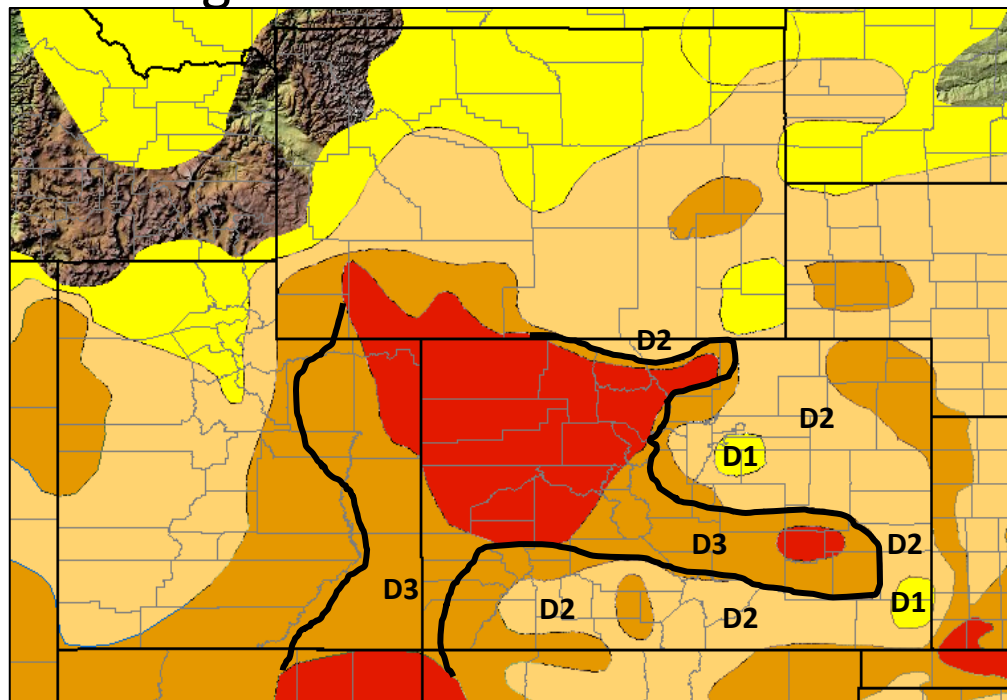


Fig. 6: Accumulated reference ET (black line) at Cortez, CO near the Four Corners, compared to the max year (red), min year (green), and average (dashed line).

Drought and Water Discussion



Drought – Exceptional	0 to 2 (D4)
Drought – Extreme	2 to 5 (D3)
Drought – Severe	5 to 10 (D2)
Drought – Moderate	10 to 20 (D1)
Abnormally Dry	20 to 30 (D0)

Drought categories and their associated percentiles

Fig. 7: June 19th release of U.S. Drought Monitor for the UCRB.

UCRB and the rest of Colorado:

Widespread one category deteriorations for all of Colorado and the UCRB around the Four Corners region are recommended based on very dry vegetation conditions, streamflows below the 10th percentile, 120-day standardized precipitation indices below -1.5 in many areas, very hot temperatures, and impacts ranging from large crop losses to easily starting and quickly spreading wildfires.

D1—The remaining D0 pockets in Colorado (around the southeast Denver metro area and in southeast CO) should now become D1. All of Colorado will now be D1 or worse (no D0).

D2 – All of the D1 currently in Colorado should now become D2.

D3 – It is recommended that the two separate D3s in the UCRB be connected and cover more of the Four Corners region (Fig. 7, black line). The D3 should also be expanded to cover most of the Arkansas River valley where there was D2 last week (Fig. 7, black line).

D4 – no D4 this week, though northwest CO will be closely monitored for possible future degradations.